So… Pretty simple, uh?

Now, I want us to look at a simple Lua code…

This next example introduces some important concepts.

First, we declare two simple variables in the first line of our program.

x = 10 (x that starts with the value 10)

y = 10 (and y that also starts with the value 10)

Variables are like little places we create in memory, and they can store values.

We can give them meaningful names. In this example I chose the names x and y, and you will see why in a second.

We can think of the computer screen as the Cartesian plane. Yes, that Cartesian plane you studied in school, with the x-axis holding the horizontal values (from left to right), and the y-axis holding the vertical values (up and down). Think of the computer screen as that plane, where each pixel is one unit in the x and y axis.

We will use the variables x and y to define where to draw objects in the screen.

See, I can simply call the Lua function “circle” and tell the function to use the parameters (x, y) to draw a circle at position x and y of the screen.

circle(x, y, 10)

You might be thinking “Gus, what is that value 10 at the end of the function?”

Well, to draw a circle we also need to tell Lua how big the circle should be. So, in this example, the circle will have a radius of 10 pixels.

Not bad, right?

We are almost done. Another important thing we need to understand is what programmers call a “game loop.”

Lua has two functions to handle game loop: update() and draw().

Both update() and draw() run several times per second, and they are responsible for changing the values and drawing the frames of our game, one after the other.

The functions update and draw run really fast, and that is what gives us the impression of animation.

Ok, that’s too much talk. It’s time to work!

Your next task is to change the behavior of a simple game. I will give you a simple code to study. Run the program and you should see a small circle moving on the screen.

The circle is simply moving from left to right, but I spoke with our project manager and she wants the circle to move not only to the right, but also down.

See if you can figure out how to change the code to make the circle move diagonally from the top-left all the way to the bottom-right.

Take your time, and pay special attention to these three main elements that make this game work:

* variables
* draw()
* update()

When you’re done, just type “exit” and we will move forward to some more exciting stuff.

I’ll see you soon.